

**REMARKS**

The drawings are objected to because of lacking of indication for an inventive subject matter. Claim 1-20  
5 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which application regards as the invention. Claim 1, 2 and 4-20 are rejected under 35 U.S.C. 102(b) as being  
10 anticipated by Vaughn et al. (US-5,233,665). Claim 3 is rejected under 35 U.S.C 103(a) as being unpatentable over Vaughn et al. (US-5,233,665).

**1. Objection of drawings:**

15 The drawings are objected to because of lacking of indication for an inventive subject matter (Fig. 1 for prior art and Fig. 2 for indicating applicant's invention subject matter).

**Response:**

20 A corrected drawing of Fig. 2-5 is attached. The detail components of the input and output device are drawn to distinguish the present invention from prior art.

**2. Rejection of claim 1-20 under 35 U.S.C. 112:**

25 (a) In claim 1, lines 3-5, it is not clear how bandpass filter can be utilized for "amplifying the electrical signals".

**Response:**

30 Claim 1 is amended to distinguish the indefinite limitation and no new matter is included in the amended claim. The bandpass filtering units can pass acoustic signals with frequencies within a predetermined frequency range and transform the acoustic signals into electrical signals, and amplify the electrical signals.

35 The bandpass filtering unit comprises "two signal transformation units" and "a differential amplifier". The

differential amplifier of the bandpass filtering unit amplifies a difference between the electrical signals transmitted from the two signal transformation units. Thus, the function of the bandpass filtering units is not only transforming the acoustic signals into electrical signals but also amplifying the electrical signals.

(b) In claim 2, it is not clear what does "two signal transformation unit" refer to.

10 **Response:**

The bandpass filtering unit comprises "two signal transformation units" and "a differential amplifier", and acts as a bandpass filter. The "two signal transformation units" receives the acoustic signal input (not electrical signal input) and, in practice, can be two or more than two microphones.

(c) In claim 6, it is not clear if a microphone is a part of an acoustic signal input device.

20 **Response:**

Claim 6 is amended to distinguish the indefinite limitation and no new matter is included in the amended claim. In practice, the signal transformation units can be microphones, and the microphones are a part of an acoustic signal input device.

(d) In claim 14, it is not clear what is "a greatest amplification".

**Response:**

Claim 14 is amended to distinguish the indefinite limitation and no new matter is included in the amended claim. In claim 14, the word "greatest" is revised to "specific".

35 **3. Rejection of claim 1,2 and 4-20 under 35 U.S.C. 102(b):**

The examiner is under the impression that the elements

of claims 1, 2 and 4-20 are anticipated by Vaughn et al.  
US-5,233,665.

**Response:**

In claims 1, 2 and 4-20, there are several main  
5 distinctions between this application and US-5,233,665.

The bandpass filters(28) in US-5,233,665 are used for  
filtering the "electrical signal", but the characteristic  
of this application is filtering the "acoustic signal".  
In this application, transforming and amplifying the  
10 electrical signal is performed after filtering the  
"acoustic signal".

Regarding claims 5, 11 and 20 of this application, the  
bandpass filtering units, the bandpass filter and the  
acoustic signal output device are formed by performing a  
15 micromachining fabrication process (for fabricating  
micro-mechanical parts), but the device of US-5,233,665  
are formed by traditional RC circuits.

Regarding claims 6 and 12 of this application, the  
microphone is included in the bandpass filter, but the  
20 microphone 20 of US-5,233,665 is not included in the  
bandpass filter 28 (Fig.1 of US-5,233,665).

**4. Rejection of claims 3 under 35 U.S.C. 103(a):**

25 Examiner considers that providing a suitable bandpass  
filter for a filterbank is very well known in the art, it  
therefore would have been obvious to one skilled in the  
art at the time the invention made to provide a desired  
filter, such as a amplitude-tunable filters for the  
30 filterbank of the device.

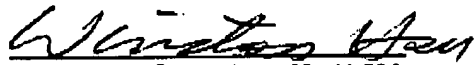
**Response:**

Providing a suitable bandpass filter for a filterbank  
is very well known in the art. But the combination and  
implementation of the characteristics of using the signal  
35 transformation units and the differential amplifier to  
perform an amplitude-tunable filter is never disclosed and

is unobvious.

In US-5,233,665, the amplitude-tunable filter is composed of a programmable compression circuit(30) and a programmable gain amp(34), and is different from this application.

Sincerely yours,



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Attachments

**ANNOTATED SHEET SHOWING CHANGES**

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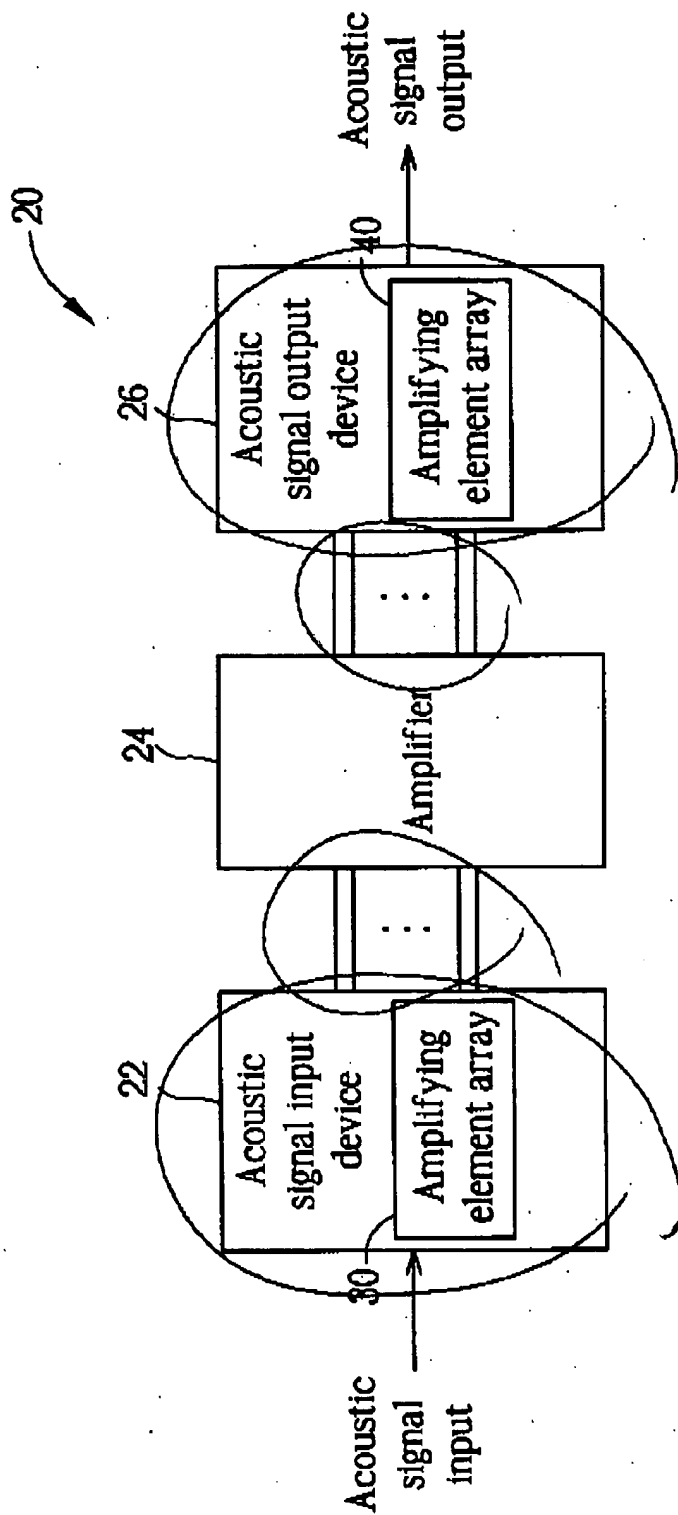


Fig. 2

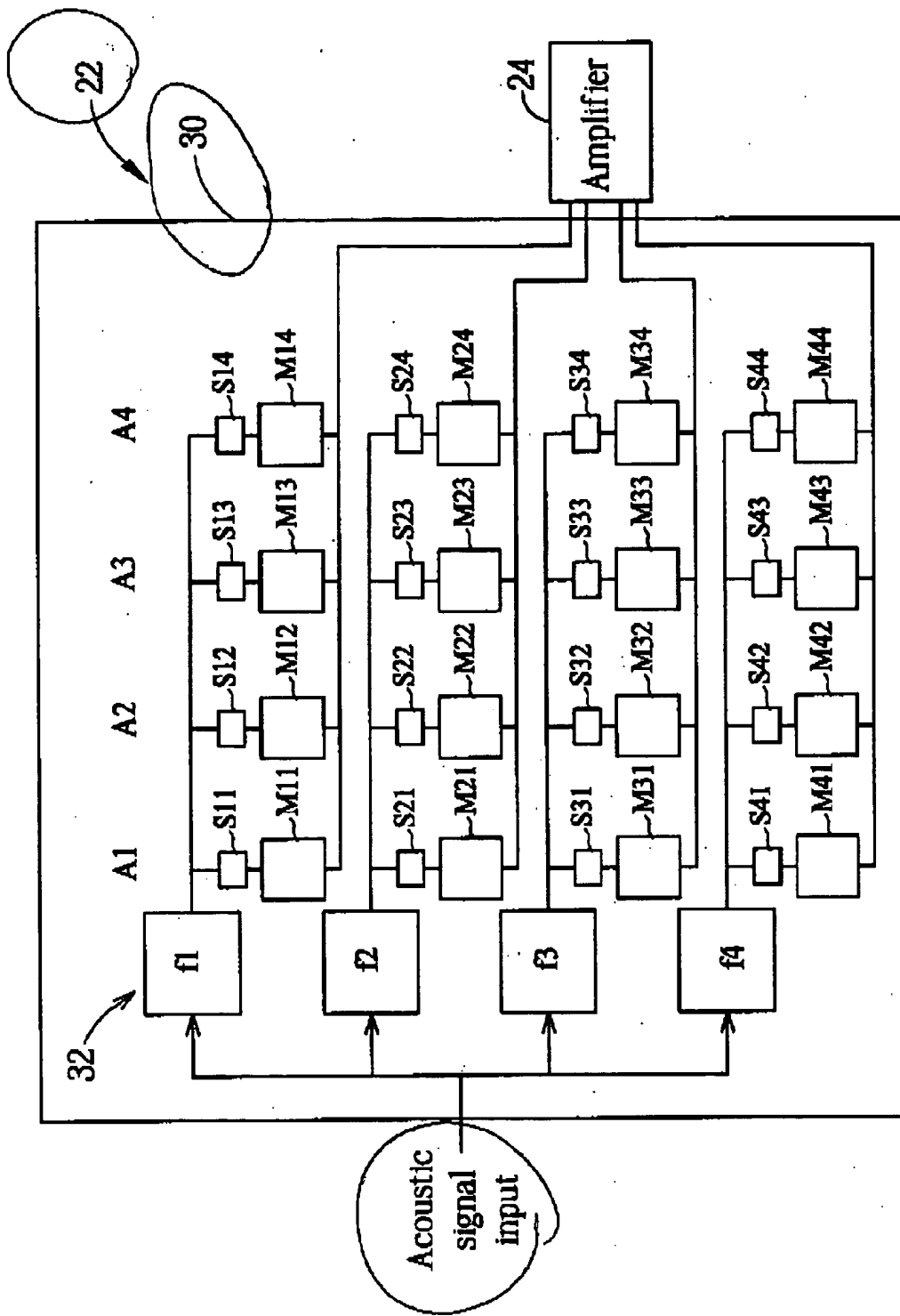


Fig. 3

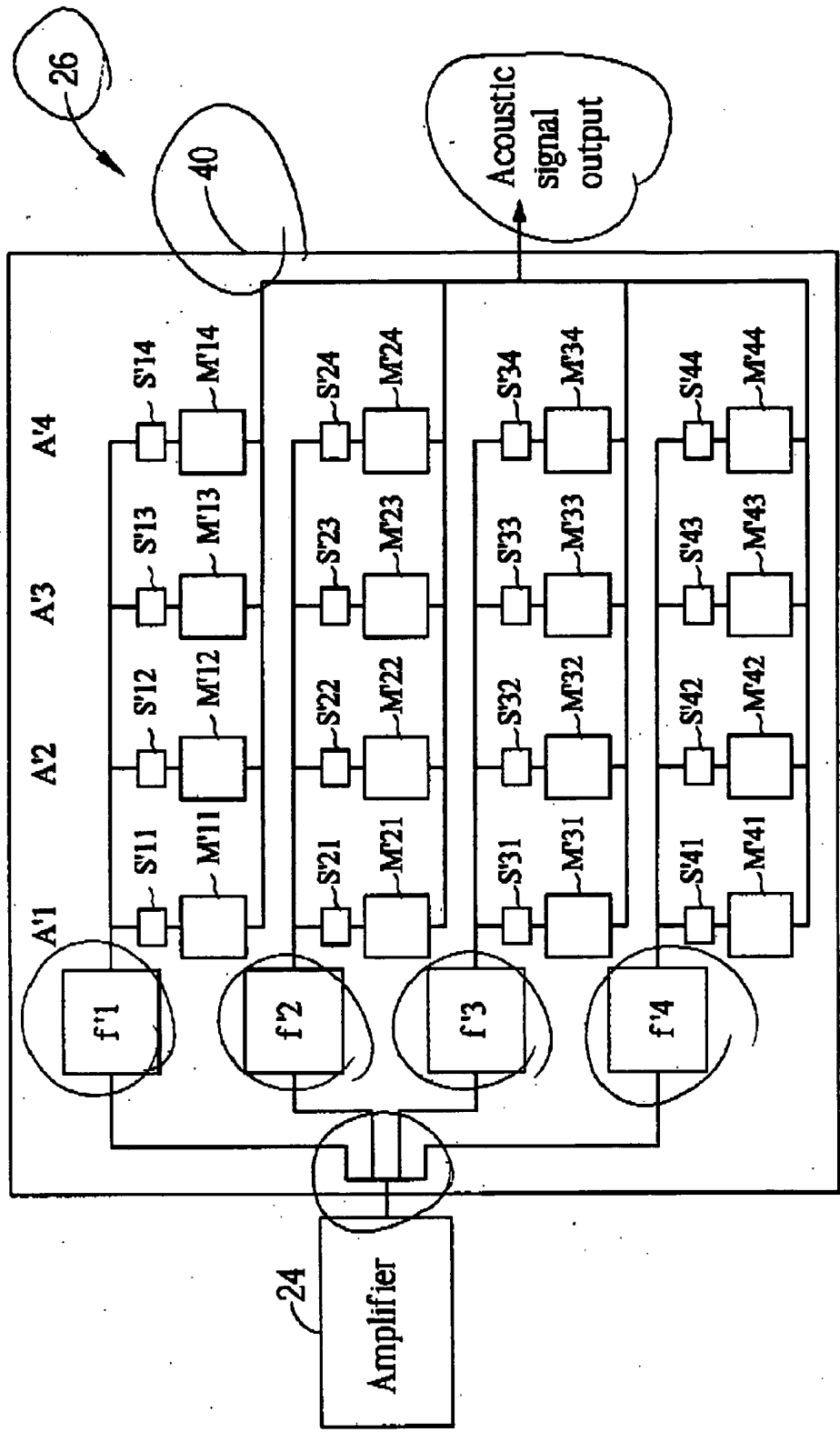


Fig. 4

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Fig. 5

